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May 13, 2015

CONFIDENTIAL

New Brunswick Teachers' Pension Plan Board of Trustees
c/o Mr. Larry Jamieson, Chair
440 King Street
York Tower, Suite 581
Fredericton, NB E3B 5H8

Dear Mr. Jamieson:

RE: NEW BRUNSWICK TEACHERS' PENSION PLAN
Cost Certificate as at August 31, 2014

The New Brunswick Teachers' Pension Act ("Former TPA") was repealed and replaced with the New Brunswick Teachers' Pension Plan ("NBTPP" or "Plan") effective July 1, 2014. The registration of the NBTPP under the Pension Benefits Act is subject to approval by the New Brunswick Superintendent of Pensions ("Superintendent").

This cost certificate is prepared for the NBTPP Board of Trustees ("Trustees") and is suitable for filing with the Superintendent in accordance with the requirements of subsection 14(2) of the Teachers' Pension Plan Act, SNB 2014 ("TPPA").

The cost certificate will outline:

- The extrapolated financial position of the Plan as at August 31, 2014 on the funding basis required under Section 17 of the TPPA;
- The estimated normal cost for benefits to accrue over the plan year following August 31, 2014, and estimated Teacher and Employer contributions requirements for the same period in accordance with the terms of the Plan; and
- A review of any action or actions that may be required by the Board of Trustees under the terms of the Funding Policy for the NBTPP further to the results found in the cost certificate.

The initial and most recent actuarial valuation of the Plan was carried out as at January 1, 2014. It included the impact of all the changes effective July 1, 2014 that saw the repeal of the Former TPA and the creation of the NBTPP. The detailed results of the actuarial valuation can be found in our *Initial Actuarial Valuation Report As At January 1, 2014 And*

Conversion Plan prepared in September 2014 and filed with the Superintendent. This initial report is the basis for the financial extrapolation found in this cost certificate.

ACTUARIAL METHODS AND ASSUMPTIONS

The actuarial methods and assumptions underlying the extrapolation of the funding liability from January 1, 2014 (date of the initial valuation report) to August 31, 2014 are the same as the ones used in the funding valuation of the Plan as at January 1, 2014. These methods and assumptions are summarized in Appendix 1 to this letter and are discussed in detail in our *Initial Actuarial Valuation Report As At January 1, 2014 And Conversion Plan* prepared in September 2014.

The membership data and Plan terms are also summarized in our *Initial Actuarial Valuation Report As At January 1, 2014 And Conversion Plan* prepared in September 2014, and are not repeated in this cost certificate.

APPROACH

The extrapolation will use the funding liability and the total normal cost found in the *Initial Actuarial Valuation Report As At January 1, 2014 And Conversion Plan* dated September 2014 as a starting point. The total funding liability as at January 1, 2014 is $4,644.7M. The total normal cost as a percent of payroll for the period from January 1, 2014 to June 30, 2014 (period before the changes) is 17.67% of payroll, while the total normal cost as a % of payroll for the period on and after July 1, 2014 is 14.33% of payroll.

Actual member and employer contributions for the period from January 1, 2014 to August 31, 2014 will be used to determine the covered payroll for the period, and in turn estimate the cost of accruing benefits for the period using the normal cost percentages found above. Actual benefit payments for the period are also used to reduce the actuarial liability as benefits are paid out.

ASSETS

The actual contributions and benefit payments for the period January 1, 2014 to August 31, 2014 were provided to us by the New Brunswick Investment Management Corporation (NBIMC) in unaudited financial statements for the Plan for the period.

The reconciliation of assets for the period from January 1, 2014 to August 31, 2014, as provided by the NBIMC is as follows:

TABLE 1 – RECONCILIATION OF ASSETS

	January 1, 2014 to August 31, 2014 $M
Market value of assets at January 1, 2014	$4,653.2
Adjustment to market value of assets at January 1, 2014	(0.2)
Receipts	
Member contributions	30.9
Employer contributions	29.7
Investment income plus realized and unrealized capital appreciation and depreciation	488.0
Total receipts	$548.6
Disbursements	
Pensions paid and refunds	181.7
Expenses (fees)	5.0
Total disbursements	$186.7
Market value of assets as at August 31, 2014	$5,014.9

Note: The market value of assets as at August 31, 2014 shown above taken from unaudited financial statements prepared by NBIMC may not include all amounts receivable and payable. The net impact of such outstanding receivables and payables is deemed not to be material for the purposes of this cost certificate based on prior years' level of such amounts.

EXTRAPOLATED FUNDING LIABILITY

The result of the extrapolation of the funding liability to August 31, 2014 using the approach described above, and member and employer contributions and benefit payments found in the asset reconciliation above, is presented in Table 2 below.

TABLE 2 –EXTRAPOLATED FUNDING LIABILITY AS AT AUGUST 31, 2014

	$M
Funding liability as at January 1, 2014	$4,644.7
Normal cost for period from January 1, 2014 to August 31, 2014 (17.67% of payroll from 1.1.2014 to 30.6.2014 and 14.33% of payroll from 1.7.2014 to 31.08.2014)	68.7
Benefit payments for period from January 1, 2014 to August 31, 2014	(181.7)
Interest on above components	193.7
Extrapolated funding liability as at August 31, 2014	$4,725.4

FUNDING VALUATION FUNDED STATUS

The funding valuation funded status is determined by comparing the fair market value of the assets to the extrapolated funding liability as at August 31, 2014. The resulting funded status is found in Table 3 below.

TABLE 3 – FUNDING VALUATION FUNDED STATUS

	August 31, 2014
	$M
Market value of assets	$5,014.9
Extrapolated funding liability	$4,725.4
Extrapolated funding valuation excess (unfunded liability)	$289.5
Extrapolated Termination Value Funded Ratio (subsection 17(7) of TPPA) or Extrapolated Closed Group Funded Ratio (section 1 of TPPA)	106.1%

EXTRAPOLATED NORMAL COST AND CONTRIBUTIONS

We estimate the normal cost and contributions to the Plan for the year following August 31, 2014 to be as follows, based on the payroll figure established for the above extrapolation and projected for the period from September 1, 2014 to August 31, 2015:

TABLE 4 – EXTRAPOLATED NORMAL COST AND CONTRIBUTIONS

	Extrapolation for Year following August 31, 2014	
	$M [(2)]	% of payroll [(1)]
A. Funding valuation normal cost	$96.8	14.33%
B. Contributions:		
- Teachers	$60.8	9.00%
- Employer's initial contributions	65.9	9.75%
- Employers' temporary schedule 1 (for 5 years after 1-7-2014)	5.1	0.75%
- Employers' temporary schedule 2 (for 10 years after 1-7-2014)	5.1	0.75%
- Employers' temporary schedule 3 (for 15 years after 1-7-2014)	5.1	0.75%
Total	$142.0	21.00%
C. Excess contributions (B. – A.)	$45.2	6.67%
Estimated annualized payroll for year following August 31, 2014	$675.8	

(1) Contribution rates shown here are the average rates for the Plan (actual Teacher contribution rates are 8.5% up to the YMPE and 10.2% above the YMPE and Employer initial contribution rates are 11.5% up to the YMPE and 13.2% above the YMPE) and have effect from July 1, 2014 to June 30, 2015. On July 1, 2015, Member contribution rates increase by 0.5% of payroll, and Employer contribution rates remain constant.
(2) Contribution amounts are calculated using the estimated annualized payroll for the year following August 31, 2014. Actual payroll figures will be lower due to some members working on less than full-time basis.

REVIEW OF FUNDING POLICY ACTIONS

In accordance with the annual process followed by the Board of Trustees under the Funding Policy for the Plan, the Board must consider its options for action based on the funded status of the Plan (NBTPP Funding Policy, Section VII - Annual Review, Subsection B. Application of Funding Policy, Bullet 6).

Such actions would be found under either Section IV – Funding Deficit Recovery Plan or Section V – Funding Excess Utilization Plan, depending on the level of the Closed Group Funded Ratio.

Section IV – Funding Deficit Recovery Plan of the Funding Policy requires the Board of Trustees to implement a Funding Deficit Recovery Plan when:

- the Closed Group Funded Ratio of the Plan falls below 100%; and
- any funding correction would exceed 1% of payroll when taking into account total contributions made in excess of normal cost over the next 15 years.

Given that the Closed Group Funded Ratio is in excess of 100%, the first condition above is not met, and therefore the Board of Trustees does not have to implement a Funding Deficit Recovery Plan on the basis of this cost certificate.

Section V – Funding Excess Utilization Plan of the Funding Policy describes the actions the Board of Trustees must take or consider when the Closed Group Funded Ratio exceeds 100%. In such cases, certain funding corrections applied in the past can be reversed. However, given that this is the first cost certificate after the implementation of the Plan, no past funding corrections have ever been applied.

The next step in the Funding Excess Utilization Plan calls for the establishment of a contingency reserve of up to 10% of the funding liability of the Plan. We understand that such contingency reserve is not meant to be held separate and apart from the Plan, but rather be interpreted as a "buffer" to be held within the Plan. In that sense, a contingency reserve of 10% of the funding liability of the Plan would be reached when the Closed Group Funded Ratio equals 110%. Until such time as such contingency reserve is achieved, the Board of Trustees is not in a position to implement further actions provided under Section V – Funding Excess Utilization Plan of the Funding Policy.

Based on the information reviewed above and the extrapolated Closed Group Funded Ratio of 106.1% calculated as at August 31, 2014, it is determined that the Funding Policy does not provide for immediate action to be taken by the Board of Trustees under either the Funding Deficit Recovery Plan or the Funding Excess Utilization Plan.

UPDATE OF TERMINATION VALUE FUNDED RATIO

The Termination Value Funded Ratio is used in calculating the value of lump sum payments payable from the Plan to Teachers who terminate employment before being eligible for an immediate pension and elect to receive a transfer outside the Plan.

The legislation does not require that the Termination Value Funded Ratio established at the onset of the Plan be changed until such time as a complete actuarial valuation of the Plan is conducted (unless it is believed that it has changed by more than 10%). It also does not prevent the Board of Trustees from updating the ratio at an earlier date.

As such, the Board of Trustees may wish to consider adopting the extrapolated Termination Value Funded Ratio as at August 31, 2014 for purposes of calculating lump sum payments from the Plan for Teachers with a termination date on or after such decision is taken.

This would ensure that the most up-to-date information is taken into account in calculating such lump sum payments. Updating the ratio annually would also be in line with the process followed by other public service plans in the Province that use a similar approach to calculating lump sum transfers.

SUBSEQUENT EVENTS

The Minister of Finance announced in the Province's budget for 2015-2016 that 249 Teaching positions would be cut mainly through attrition in the coming months and years. The stochastic analysis under the initial actuarial valuation of the Plan as at January 1, 2014 already provided that the total active membership under the Plan would reduce by 2.00% per year for a period of 5 years following April 1, 2013, and would remain stable thereafter. This assumption already provides for a net reduction in active plan membership of about 180 members per year for 5 years. We therefore believe that no changes are required to our valuation and this extrapolation following the announcement of the Minister of Finance.

We are not aware of any other events or changes in Plan provisions or in legislation governing the Plan which would materially affect the extrapolation presented above.

OPINION

In my opinion, for the purposes of the extrapolation of the funding valuation found in this cost certificate:

- The membership data on which the extrapolation is based are sufficient and reliable for the purposes of the extrapolation.
- The assumptions are appropriate for the purposes of the extrapolation.
- The methods employed in the extrapolation are appropriate for the purposes of the extrapolation.

This funding valuation cost certificate has been prepared, and our opinions given, in accordance with accepted actuarial practice in Canada.

The assumptions used under the funding valuation extrapolation were reasonable and consistent with the objectives of the plan at the time this cost certificate was prepared.

Respectfully submitted,

Yves Plourde, FSA, FCIA

Peer reviewed by Conrad Ferguson, FSA, FCIA

APPENDIX 1

TABLE A.1 – NEW BRUNSWICK TEACHERS' PENSION PLAN FUNDING VALUATION ACTUARIAL ASSUMPTIONS

	January 1, 2014
Discount rate	6.25%
Indexing of active members' accrued pensions	2.25%
Indexing of retiree pensions (including surviving spouses and dependent children), disability pensions and deferred vested members	1.69%
Salary increase for year following valuation (for normal cost purposes only)	2014: 2.00% plus merit and promotion
YMPE increase for year following valuation (for normal cost purposes only)	2.75%
Mortality	CPM-RPP2014Publ generational mortality using improvement scale CPM-B with an adjustment factor of 1.12 for males and 1.01 for females
Retirement	
Number of years before unreduced retirement age according to provisions in effect at December 31, 2013	Retirement Assumption
Under 5 years (valuation assumption as at April 1, 2012)	45% at 85 points 45% at 87 points 10% at 90 points but not later than attainment of 35 years of service or age 60
Over 5 years (adjusted assumptions)	45% at 89 points 45% at 91 points 10% at 94 points but not later than attainment of 37 years of service or age 62
Termination of employment	None
Investment and administrative expenses assumed by the fund	Implicit in the discount rate

MARKET VALUE OF ASSETS BY ASSET CLASS

The market value of the assets as at August 31, 2014 is $5,014.9M. This figure was taken from unaudited financial statements published by the New Brunswick Investment Management Corporation as at August 31, 2014. A distribution of the market value of assets by the major asset classes, as published by the NBIMC, is provided below:

TABLE A.2 – MARKET VALUE OF ASSETS BY ASSET CLASS

Asset Class	As at August 31, 2014 (in $M)
Fixed Income	$1,254.2
Equities	2,511.8
Inflation Linked Assets	889.5
Alternative Investments	357.4
Payables and receivables	2.0
Total	$5,014.9